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AEF-01 – ALTERNATE EMISSION FACTOR REQUEST

State Form 51860 (8-04)

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

IDEM - Office of Air Quality - Permits Branch

100 N. Senate Avenue, P.O. Box 6015 Indianapolis, IN 46206-6015 Telephone: (317) 233-0178 or

Toll Free: 1-800-451-6027 x30178 (within Indiana) Facsimile Number: (317) 232-6749 Http://www.IN.gov/idem/air/permits/index.html

NOTES:

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FOR OFFICE USE ONLY	
PERMIT NUMBER:	

_	PART A: Process Idea	ntification				
Part A is intended to identify the	process at the source for which the	e alternate emission factor is requested.				
1. Process Description: 12 Ps	S					
2. Affected Emissions Units:	3. Affected Control Devices:	4. Raw Materials Impacting Emissions:				
Unit 130 (12PS Heater H-101A, H102, H101B)	N/A	Natural Gas or Refinery Fuel Gas				
PART B: Standard Calculation Method						
Deat Die leterale die Lieuthe ett.	ata a danda a sebabahan ala da babahan da	had and to the effect by the conduct to a set a decrease				

PART B: Standard Calculation Method				
Part B is intended to identify the standard emission calculation method and to identify why the method is not adequate.				
5. Standard Emission Calculation Method: AP-42 Emission Factors				
6. Rationale: Briefly explain why the published emission factor does not appropriately represent the process, operation, or pollution control equipment efficiently.				
SO ₂ and H ₂ SO ₄ Emissions: Standard AP-42 emission factors are not as accurate as site-specific data.				
NO _x and CO Emissions: Standard AP-42 emission factors are not as accurate as unit-specific vendor guarantees.				
Hg Emissions: API / WSPA Emission Factors for Boilers / Heaters using Process Gas, 1998 (Table ES-1).				

			PART C: Proposed Alternate Emission Factor			
			ded to identify the proposed alternate emission factor (AEF) and to sufficiently understand the process used to develop the AEF.	describe th	ne AEF suc	ch that
7.	Propo	osed	AEF: Briefly describe the proposed alternate emission factor.			
and	H2S i	n the	4 Emissions: BP Whiting has continuous emissions monitors (CEMS) to meas fuel gas. As such, emissions calculations are based on site-specific data rathers for more accurate emissions documentation.			
NO	x and C	CO E	missions: Emission factors are based on unit-specific vendor guarantees.			
Hg	Emissi	ions:	API / WSPA Emission Factors for Boilers / Heaters using Process Gas, 1998 (Table ES-	1).	
8.	AEF [Deve	lopment Method: What approach was, or will be used to develop the alternat	e emission	factor?	
х	Cont	inuo	us Emissions Monitoring System (CEMS) SO ₂ and H ₂ SO ₄ (based on H2S fue	el gas CEN	/IS)	
			Is the CEM certified by IDEM? Unknown		Yes	□No
		В.	Is the CEM operated and maintained in accordance with the applicable regula	tions?		☐ No
	Sour	ce T	esting			
		A.	Was testing conducted by a trade association or industry group?		☐ Yes	☐ No
			Identify the trade association or industry group:			
		В.	Was testing published and validated through peer review?		☐ Yes	☐ No
		C.	Was testing approved by IDEM?		☐ Yes	□No
	Development of Material Balance Equations					
	Emis	sion	Modeling			
	Engir	neeri	ng Estimates:			
Х	Othe	r – P	lease Specify: Vendor Guarantees (NOx and CO)			
9.	Supple emiss		g Data: Have you attached the data supporting the development of your alternactor?	nate	☐ Yes	⊠ No
10.			bmittal: Have you submitted the appropriate reference method or test IDEM?	☐ Yes	□No	⊠ NA
11.	Mode	ling	Analysis: Was any modeling conducted?	☐ Yes	⊠ No	□NA
12.			Summary: Briefly describe any modeling that was conducted. Attach addition summary of Additional Information, as needed.	nal informa	tion using	<u>form</u>
N/A	L					

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FOR OFFICE USE ONLY	
PERMIT NUMBER:	

	PART A: Process Iden	tification			
Part A is intended to identify the p		alternate emission factor is requested.			
1. Process Description: Coolin	ng Towers				
2. Affected Emissions Units:	3. Affected Control Devices:	: 4. Raw Materials Impacting Emissions:			
Cooling Towers 2, 3, 4, 7, 8, and HU	Cooling Tower 7 - DE, Cooling Tower 8 - DE, HU Cooling Tower – DE, Cooling Tower 2 - DE, Cooling Tower 3 - DE, and Cooling Tower 4 - DE	Process/Fresh Water			

	PART B: Standard Calculation Method			
Pa	rt B is intended to identify the standard emission calculation method and to identify why the method is not adequate.			
5.	Standard Emission Calculation Method: AP-42 Emission Factors			
6.	Rationale: Briefly explain why the published emission factor does not appropriately represent the process, operation, or pollution control equipment efficiently.			
PΝ	PM, PM ₁₀ , PM _{2.5} : Standard AP-42 emission factors are not as accurate and site-specific information.			

		PART C: Proposed Alternate Emission Factor			
		ended to identify the proposed alternate emission factor (AEF) and to sufficiently can understand the process used to develop the AEF.	describe th	ne AEF su	ch that
7.	Propos	ed AEF: Briefly describe the proposed alternate emission factor.			
		$^{ m PM}_{2.5}$: Standard AP-42 emission factors are used; however, BP adjusts these factolids data.	ors based	on site-sp	ecific
uis	soived so	onus uata.			
8.	AEF De	velopment Method: What approach was, or will be used to develop the alternat	e emissior	factor?	
	Contin	uous Emissions Monitoring System (CEMS)			
		A. Is the CEM certified by IDEM?		☐ Yes	☐ No
	l	3. Is the CEM operated and maintained in accordance with the applicable regula	tions?	☐ Yes	☐ No
	Source	e Testing			
		A. Was testing conducted by a trade association or industry group?		☐ Yes	☐ No
		Identify the trade association or industry group:			
		3. Was testing published and validated through peer review?		☐ Yes	☐ No
	(C. Was testing approved by IDEM?		☐ Yes	☐ No
	Develo	pment of Material Balance Equations			
	Emissi	on Modeling			
	Engine	ering Estimates:			
Х	Other -	Please Specify: Vendor Provided Data (PM, PM10, PM2.5)			
9.		ting Data: Have you attached the data supporting the development of your altern factor?	nate	☐ Yes	⊠ No
10.		Submittal: Have you submitted the appropriate reference method or test to IDEM?	☐ Yes	□No	⊠ NA
11.	11. Modeling Analysis: Was any modeling conducted?			□NA	
12.		ng Summary: Briefly describe any modeling that was conducted. Attach additions, Summary of Additional Information, as needed.	nal informa	ntion using	<u>form</u>
N/A	١				

AEF-01 – ALTERNATE EMISSION FACTOR REQUEST

State Form 51860 (8-04)

Process Description:

Affected Emissions Units:

Unit 720 (DHT Heater B-601A)

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NOTES:

2.

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Distillate Hydrotreating Unit

3.

N/A

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PERMIT NUMBER:

Raw Materials Impacting Emissions:

Natural Gas

	PART B: Standard Calcul	ation Method		
Part B is intended to identify the standard emission calculation method and to identify why the method is not adequate.				
5. Standard Emission Calculation Method: AP-42 Emission Factors				
6. Rationale: Briefly explain why the published emission factor does not appropriately represent the process, operation, or pollution control equipment efficiently.				
NO _x and CO Emissions: Standa	rd AP-42 emission factors are not	as accurate as unit-specific vendor guarantees.		
		using Process Gas, 1998 (Table ES-1).		
<u> </u>	1.1g = 1.1.1cs.c.l.c. 1.7 1.1cs. 1.7 2.1.1cs.c.l.c. 1.01 2011010 7 11001010 40111g 1 100000 000, 1000 (10010 10 1).			

PART A: Process Identification

Part A is intended to identify the process at the source for which the alternate emission factor is requested.

	PART C: Proposed Alternate Emission Factor Part C is intended to identify the proposed alternate emission factor (AEF) and to sufficiently describe the AEF such that IDEM staff can understand the process used to develop the AEF.				
NO,	and	CO Emissions: Emission factors are based on unit-specific vendor guarantees.			
Hg	Emiss	ions: API / WSPA Emission Factors for Boilers / Heaters using Process Gas, 1998 (Table ES-	1).	
8.	AEF	Development Method: What approach was, or will be used to develop the alternate	e emission	factor?	
	Con	inuous Emissions Monitoring System (CEMS)			
		A. Is the CEM certified by IDEM?		☐ Yes	☐ No
		B. Is the CEM operated and maintained in accordance with the applicable regular	tions?	☐ Yes	☐ No
	Sou	ce Testing			
		A. Was testing conducted by a trade association or industry group?		☐ Yes	☐ No
		Identify the trade association or industry group:			
		B. Was testing published and validated through peer review?		☐ Yes	☐ No
		C. Was testing approved by IDEM?		☐ Yes	☐ No
	Dev	elopment of Material Balance Equations			
	Emi	sion Modeling			
	Eng	neering Estimates:			
Х	Othe	er – Please Specify: Vendor Guarantees (NOx and CO)			
		orting Data: Have you attached the data supporting the development of your alternion factor?	nate	Yes	⊠ No
		P Submittal: Have you submitted the appropriate reference method or test col to IDEM?	☐ Yes	□No	⊠ NA
11.	Mode	ling Analysis: Was any modeling conducted?	☐ Yes	⊠ No	□NA
12.		ling Summary: Briefly describe any modeling that was conducted. Attach addition 05, Summary of Additional Information, as needed.	al informa	tion using	<u>form</u>
N/A					

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PERMIT NUMBER:

Part A is intended to identify the process at the source for which the alternate emission factor is requested.								
1. Process Description: Fluid	1. Process Description: Fluid Catalytic Cracking Unit 600							
2. Affected Emissions Units:	2. Affected Emissions Units: 3. Affected Control Devices: 4. Raw Materials Impacting Emissions:							
Unit 240 (FCU 600)	N/A		Ga	as oil feed				
Dowt D is interneded to identify the		B: Standard Calcul						
Part B is intended to identify the standard emission calculation method and to identify why the method is not adequate.								
5. Standard Emission Calculation Method: AP-42 Emission Factors								
6. Rationale: Briefly explain why the published emission factor does not appropriately represent the process, operation, or pollution control equipment efficiently.								
PM, PM ₁₀ , PM _{2.5} , NO _x , SO ₂ , H ₂ SO data.	O ₄ , CO, Emiss	sions: Standard AP-4	l2 en	nission factors are not as accurate as site-specific				
Hg Emissions are based on site s	specific engin	eering estimates.						
Pb and Be Emissions are based of Cracking Regenerators, Environm				ell. Emission of Trace Compounds from Catalytic ctober 2002. Pages 163-167				
				-				

PART A: Process Identification

PART C: Proposed Alternate Emission Factor Part C is intended to identify the proposed alternate emission factor (AEF) and to sufficiently IDEM staff can understand the process used to develop the AEF.	describe th	ne AEF sud	ch that				
7. Proposed AEF: Briefly describe the proposed alternate emission factor.							
NO _x , SO ₂ , CO and Emissions: This unit is equipped with NOx, SO ₂ , H ₂ SO ₄ , and CO continuo	NO _x , SO ₂ , CO and Emissions: This unit is equipped with NOx, SO ₂ , H ₂ SO ₄ , and CO continuous emissions monitors (CEMS). As such, emissions calculations are based on site-specific data rather than standard AP-42 emission factors for						
PM , PM_{10} , and $PM_{2.5}$ Emissions: The PM , PM_{10} , and $PM_{2.5}$ emission factors are based on stack test performed for BP Whiting Refinery in June 2005.							
Hg Emissions are based on site specific engineering estimates.							
Pb and Be Emissions are based are taken from R. Bertrand and J. Siegell. Emission of Trace Cracking Regenerators, Environmental Progress (volume 21, No. 3). October 2002. Pages		nds from C	atalytic				
8. AEF Development Method: What approach was, or will be used to develop the alternat	e emission	factor?					
x Continuous Emissions Monitoring System (CEMS) NO _x , CO, SO ₂ and H ₂ SO ₄ (calculate	d from SO	₂ CEMS)					
A. Is the CEM certified by IDEM?	☐ Yes	☐ No					
B. Is the CEM operated and maintained in accordance with the applicable regulations?							
x Source Testing PM, PM ₁₀ , PM _{2.5}							
A. Was testing conducted by a trade association or industry group?	☐ Yes	□No					
Identify the trade association or industry group:							
B. Was testing published and validated through peer review?		☐ Yes	□No				
C. Was testing approved by IDEM?	☐ Yes	□No					
Development of Material Balance Equations							
Emission Modeling							
X Engineering Estimates: Hg							
X Other – Please Specify: Pb and Be							
9. Supporting Data: Have you attached the data supporting the development of your alternemission factor?	nate	☐ Yes	⊠ No				
10. RM/TP Submittal: Have you submitted the appropriate reference method or test protocol to IDEM?	☐ Yes	□No	⊠NA				
11. Modeling Analysis: Was any modeling conducted?	☐ Yes	⊠ No	□NA				
12. Modeling Summary: Briefly describe any modeling that was conducted. <i>Attach addition</i> <u>GSD-05, Summary of Additional Information</u> , as needed.	nal informa	tion using	<u>form</u>				
N/A							

DEW (1918)

AEF-01 – ALTERNATE EMISSION FACTOR REQUEST

State Form 51860 (8-04)

Process Description: GOHT Unit

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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PERMIT NUMBER:	

2. Affected Emissions Units:	3. Affected Control Devices:	4. Raw Materials Impacting Emissions:					
Unit 802 (GOHT Heater F- 901A, F901B)	N/A	Natural Gas or Refinery Fuel Gas					
,							
	PAPT B: Standard Calcul	ation Method					
PART B: Standard Calculation Method Part B is intended to identify the standard emission calculation method and to identify why the method is not adequate.							
5. Standard Emission Calculation Method: AP-42 Emission Factors							
Rationale: Briefly explain who operation, or pollution control		pes not appropriately represent the process,					
SO ₂ and H ₂ SO ₄ Emissions: Stan	dard AP-42 emission factors are no	ot as accurate as site-specific data.					
NO _X and CO Emissions: Standar	rd AP-42 emission factors are not a	as accurate as unit-specific vendor guarantees.					
Hg Emissions: API / WSPA Emis	sion Factors for Boilers / Heaters u	sing Process Gas, 1998 (Table ES-1).					

PART A: Process Identification

Part A is intended to identify the process at the source for which the alternate emission factor is requested.

				PAF	RT C: Propo	osed Alte	ernate Ei	mission Fac	ctor			
				he propose		emission	factor (A	AEF) and to		describe th	ne AEF sud	ch that
7.	Propo	sed AEF:	Briefly d	escribe the	proposed a	alternate	emission	n factor.				
and	60_2 and H_2SO_4 Emissions: BP Whiting has continuous emissions monitors (CEMS) to measure exhaust temperatures and H_2S in the fuel gas. As such, emissions calculations are based on site-specific data rather than standard AP-42 emission factors for more accurate emissions documentation.											
NO	NO _x and CO Emissions: Emission factors are based on unit-specific vendor guarantees.											
Hg	Hg Emissions: API / WSPA Emission Factors for Boilers / Heaters using Process Gas, 1998 (Table ES-1).											
8.	AEF [evelopme	nt Metho	od: What a	approach wa	as, or will	be used	to develop t	the alternat	e emission	factor?	
х		-						SO ₄ (based c				
					EM? Unkno	•	- <u>-</u>				Yes	□No
	B. Is the CEM operated and maintained in accordance with the applicable regulations?					⊠ Yes	 ∏ No					
	Source Testing											
			esting co	nducted by	y a trade as	sociation	or indust	try group?			☐ Yes	□No
Identify the trade association or industry group:												
	B. Was testing published and validated through peer review?				☐ Yes	□No						
	C. Was testing approved by IDEM?				☐ Yes	 □ No						
	Development of Material Balance Equations											
	Emission Modeling											
		eering Esti										
х	Othe	– Please S	Specify:	Vendor C	Guarantees	(NO _x and	ICO)					
9.		rting Data on factor?	: Have	you attache	ed the data	supportin	g the de	velopment o	f your alter	nate	Yes	⊠ No
10.		Submittal		you submi	tted the app	ropriate r	reference	e method or t	test	☐ Yes	□No	⊠ NA
11.	Mode	ing Analys	is: Was	s any mode	eling conduc	cted?				☐ Yes	⊠ No	□NA
12.					oe any mode o <u>rmation</u> , as			nducted. Atta	ach additio	nal informa	ntion using	<u>form</u>
N/A	L											

AEF-01 – ALTERNATE EMISSION FACTOR REQUEST

State Form 51860 (8-04)

Process Description:

Unit 210 (ISOM Heater H-1)

Affected Emissions Units:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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Isomerization Unit

N/A

3.

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PERMIT NUMBER:						

Raw Materials Impacting Emissions:

Natural Gas or Refinery Fuel Gas

	PART B: Standard Calculation Method						
Part B is intended to identify the standard emission calculation method and to identify why the method is not adequate.							
5. Standard Emission Calculation Method: AP-42 Emission Factors							
6. Rationale: Briefly explain why the published emission factor does not appropriately represent the process, operation, or pollution control equipment efficiently.							
SO ₂ and H ₂ SO ₄ Emissions: Standard AP-42 emission factors are not as accurate as site-specific data.							
Hg Emissions: API / WSPA Emis	sion Factors for Boilers / Heaters u	sing Process Gas, 1998 (Table ES-1).					

PART A: Process Identification

Part A is intended to identify the process at the source for which the alternate emission factor is requested.

		PART C: Proposed Alternate Emission Factor						
		stended to identify the proposed alternate emission factor (AEF) and to sufficiently can understand the process used to develop the AEF.	describe th	ne AEF suc	ch that			
7.	Propo	sed AEF: Briefly describe the proposed alternate emission factor.						
and	SO ₂ and H ₂ SO ₄ Emissions: BP Whiting has continuous emissions monitors (CEMS) to measure exhaust temperatures and H2S in the fuel gas. As such, emissions calculations are based on site-specific data rather than standard AP-42 emission factors for more accurate emissions documentation.							
Hg	Hg Emissions: API / WSPA Emission Factors for Boilers / Heaters using Process Gas, 1998 (Table ES-1).							
8.	AEF [evelopment Method: What approach was, or will be used to develop the alternat	e emission	factor?				
х		nuous Emissions Monitoring System (CEMS) SO ₂ and H ₂ SO ₄ (based on H2S fuel						
		A. Is the CEM certified by IDEM? Unknown	-	Yes	☐ No			
	B. Is the CEM operated and maintained in accordance with the applicable regulations?				☐ No			
	Source Testing							
	A. Was testing conducted by a trade association or industry group?				□No			
Identify the trade association or industry group:								
B. Was testing published and validated through peer review?				☐ Yes	☐ No			
	C. Was testing approved by IDEM?			☐ Yes	□No			
Development of Material Balance Equations								
	Emission Modeling							
	Engir	eering Estimates:						
	Othe	- Please Specify:						
9.		orting Data: Have you attached the data supporting the development of your alternon factor?	nate	☐ Yes	⊠ No			
10.		Submittal: Have you submitted the appropriate reference method or test of to IDEM?	☐ Yes	□No	⊠ NA			
11.	Mode	ing Analysis: Was any modeling conducted?	☐ Yes	⊠ No	□NA			
12.		ing Summary: Briefly describe any modeling that was conducted. Attach addition 55, Summary of Additional Information, as needed.	nal informa	tion using	<u>form</u>			
N/A	1							

AEF-01 – ALTERNATE EMISSION FACTOR REQUEST

State Form 51860 (8-04)

Process Description:

Unit 800 (#2 Coker Heaters H-

Affected Emissions Units:

#2 Coker

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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PERMIT NUMBER:

Raw Materials Impacting Emissions:

Natural Gas or Refinery Fuel Gas

201, H-202, and H-203)	H-203 SCR	
	DADT By Standard Coloub	ation Mathed
	PART B: Standard Calcula	
Part B is intended to identify the s	standard emission calculation meth	od and to identify why the method is not adequate.
5. Standard Emission Calculation	on Method: AP-42 Emission Fac	ctors
6. Rationale: Briefly explain who operation, or pollution control		nes not appropriately represent the process,
SO ₂ and H ₂ SO ₄ Emissions: Stan	dard AP-42 emission factors are no	ot as accurate as site-specific data.
NO _x and CO Emissions: Standar	d AP-42 emission factors are not a	s accurate as unit-specific vendor guarantees.
Hg Emissions: API / WSPA Emis	sion Factors for Boilers / Heaters u	sing Process Gas, 1998 (Table ES-1).

PART A: Process Identification

Part A is intended to identify the process at the source for which the alternate emission factor is requested.

Affected Control Devices:

H-201 SCR, H-202 SCR, and

		PART C	: Proposed Alternate Emission Factor					
			Iternate emission factor (AEF) and to sufficient	y describe tl	ne AEF suc	ch that		
7.	Propo	sed AEF: Briefly describe the pro	pposed alternate emission factor.					
the	6O ₂ and H ₂ SO ₄ Emissions: BP Whiting has emissions monitors (CEMS) to measure exhaust temperatures and H2S in he fuel gas. As such, emissions calculations are based on site-specific data rather than standard AP-42 emission factors or more accurate emissions documentation.							
NO ₂	_x and C	D Emissions: Emission factors are	re based on unit-specific vendor guarantees.					
Hg	Hg Emissions: API / WSPA Emission Factors for Boilers / Heaters using Process Gas, 1998 (Table ES-1).							
8.	AEF [evelopment Method: What appro	roach was, or will be used to develop the altern	ate emissior	n factor?			
х	Cont	uous Emissions Monitoring Syste	em (CEMS) SO ₂ and H ₂ SO ₄ (based on H2S fu	el gas CEM	S)			
		A. Is the CEM certified by IDEM	? Unknown		Yes	□No		
	B. Is the CEM operated and maintained in accordance with the applicable regulations?					☐ No		
	Source Testing							
	A. Was testing conducted by a trade association or industry group?					☐ No		
Identify the trade association or industry group:								
	B. Was testing published and validated through peer review?				☐ Yes	☐ No		
	C. Was testing approved by IDEM?				☐ Yes	☐ No		
	Development of Material Balance Equations							
Emission Modeling								
	Engir	eering Estimates:						
Х	Othe	- Please Specify: Vendor Guara	rantees (NOx and CO)					
9.		rting Data: Have you attached the factor?	ne data supporting the development of your alt	ernate	☐ Yes	⊠ No		
10.		Submittal: Have you submitted of to IDEM?	the appropriate reference method or test	☐ Yes	□No	⊠ NA		
11.	Mode	ng Analysis: Was any modeling	conducted?	☐ Yes	⊠ No	□NA		
12.		ng Summary: Briefly describe ar 5, Summary of Additional Informa	ny modeling that was conducted. Attach additation, as needed.	ional informa	ation using	<u>form</u>		
N/A								

DEW (1918)

AEF-01 – ALTERNATE EMISSION FACTOR REQUEST

State Form 51860 (8-04)

Process Description:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

IDEM - Office of Air Quality - Permits Branch

100 N. Senate Avenue, P.O. Box 6015 Indianapolis, IN 46206-6015 Telephone: (317) 233-0178 or

Toll Free: 1-800-451-6027 x30178 (within Indiana) Facsimile Number: (317) 232-6749 Http://www.IN.gov/idem/air/permits/index.html

NOTES:

- The purpose of this application is to request to use an alternate emission factor for permitting determinations, estimating source emissions for billing, or for development of emission inventories for use in air quality planning. This is required form.
- Detailed instructions for this form are available online at http://www.IN.gov/idem/air/permits/apps/instructions/aef01instructions.html.
- All information submitted to IDEM will be made available to the public unless it is submitted under a claim of confidentiality. Claims of confidentiality must be made at the time the information is submitted to IDEM, and must follow the requirements set out in 326 IAC 17.1-4-1. Failure to follow these requirements exactly will result in your information becoming a public record, available for any one to inspect and photocopy.

New Hydrogen Plant (3rd Party SMR)

FOR OFFICE USE ONLY	
PERMIT NUMBER:	

2. Affected Emissions Units:	3. Affected Control Devices:	4. Raw Materials Impacting Emissions:				
Unit 801 (Heaters HU-1 and HU-1 SCR and HU-2 SCR HU-2)		Natural Gas and PSA Off Gas				
110-2)						
_	PART B: Standard Calcul	ation Method				
Part B is intended to identify the	standard emission calculation meth	nod and to identify why the method is not adequate.				
5. Standard Emission Calculation Method: AP-42 Emission Factors						
6. Rationale: Briefly explain why the published emission factor does not appropriately represent the process, operation, or pollution control equipment efficiently.						
NO _x and CO Emissions: Standard AP-42 emission factors are not as accurate as unit-specific vendor guarantees.						
Hg Emissions: API / WSPA Emission Factors for Boilers / Heaters using Process Gas, 1998 (Table ES-1).						

PART A: Process Identification

Part A is intended to identify the process at the source for which the alternate emission factor is requested.

PART C: Proposed Alternate Emission Factor Part C is intended to identify the proposed alternate emission factor (AEF) and to sufficiently describe IDEM staff can understand the process used to develop the AEF.	the AEF su	ch that				
7. Proposed AEF: Briefly describe the proposed alternate emission factor.						
NO _x and CO Emissions: Emission factors are based on unit-specific vendor guarantees.						
Hg Emissions: API / WSPA Emission Factors for Boilers / Heaters using Process Gas, 1998 (Table E	કે-1).					
8. AEF Development Method: What approach was, or will be used to develop the alternate emissi	on factor?					
Continuous Emissions Monitoring System (CEMS)						
A. Is the CEM certified by IDEM?	Yes	☐ No				
B. Is the CEM operated and maintained in accordance with the applicable regulations?	∐ Yes	☐ No				
Source Testing	□ Vaa					
A. Was testing conducted by a trade association or industry group?	Yes	☐ No				
Identify the trade association or industry group: B. Was testing published and validated through peer review?	□Yes	П No				
C. Was testing approved by IDEM?	Yes					
Development of Material Balance Equations	1es					
Emission Modeling						
Engineering Estimates:						
x Other – Please Specify: Vendor Guarantees (NOx and CO)						
9. Supporting Data: Have you attached the data supporting the development of your alternate emission factor?	☐ Yes	⊠ No				
10. RM/TP Submittal: Have you submitted the appropriate reference method or test protocol to IDEM? ☐ Yes	□No	⊠ NA				
11. Modeling Analysis: Was any modeling conducted?	⊠ No	□NA				
12. Modeling Summary: Briefly describe any modeling that was conducted. Attach additional information using form GSD-05, Summary of Additional Information, as needed.						
N/A						

AEF-01 – ALTERNATE EMISSION FACTOR REQUEST

State Form 51860 (8-04)

Process Description:

Affected Emissions Units:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

IDEM - Office of Air Quality - Permits Branch

100 N. Senate Avenue, P.O. Box 6015 Indianapolis, IN 46206-6015 Telephone: (317) 233-0178 or

Toll Free: 1-800-451-6027 x30178 (within Indiana) Facsimile Number: (317) 232-6749 Http://www.IN.gov/idem/air/permits/index.html

NOTES:

- The purpose of this application is to request to use an alternate emission factor for permitting determinations, estimating source emissions for billing, or for development of emission inventories for use in air quality planning. This is required form.
- Detailed instructions for this form are available online at http://www.IN.gov/idem/air/permits/apps/instructions/aef01instructions.html.
- All information submitted to IDEM will be made available to the public unless it is submitted under a claim of confidentiality. Claims of confidentiality must be made at the time the information is submitted to IDEM, and must follow the requirements set out in 326 IAC 17.1-4-1. Failure to follow these requirements exactly will result in your information becoming a public record, available for any one to inspect and photocopy.

No. 11 Pipe Still Heater H-200

	FOR O	FFICE USE	E ONLY				
PERMIT	PERMIT NUMBER:						

Raw Materials Impacting Emissions:

Unit 120 (11 PS Heater H-200)	N/A	Natural Gas or Refinery Fuel Gas				
	PART B: Standard Calcula	etion Method				
Part B is intended to identify the		od and to identify why the method is not adequate.				
5. Standard Emission Calculation	on Method: AP-42 Emission Fac	ctors				
6. Rationale: Briefly explain who operation, or pollution control		es not appropriately represent the process,				
SO ₂ and H ₂ SO ₄ Emissions: Standard AP-42 emission factors are not as accurate as site-specific data.						
NO _x and CO Emissions: Standard AP-42 emission factors are not as accurate as unit-specific vendor guarantees.						
Hg Emissions: API / WSPA Emission Factors for Boilers / Heaters using Process Gas, 1998 (Table ES-1).						

PART A: Process Identification

4.

Part A is intended to identify the process at the source for which the alternate emission factor is requested.

	PART C: Proposed Alternate Emission Factor							
Part C is intended to identify the proposed alternate emission factor (AEF) and to sufficiently describe the AEF such that IDEM staff can understand the process used to develop the AEF.								
7.	7. Proposed AEF: Briefly describe the proposed alternate emission factor.							
and	SO ₂ and H ₂ SO ₄ Emissions: BP Whiting has continuous emissions monitors (CEMS) to measure exhaust temperatures and H ₂ S in the fuel gas. As such, emissions calculations are based on site-specific data rather than standard AP-42 emission factors for more accurate emissions documentation.							
NO	x and C	COE	missions: Emission factors are based on unit-specific vendor guarantees.					
Hg	Emissi	ions:	API / WSPA Emission Factors for Boilers / Heaters using Process Gas, 1998 (Table ES-	1).			
8.	AEF [Deve	opment Method: What approach was, or will be used to develop the alternat	e emission	factor?			
Х			s Emissions Monitoring System (CEMS) SO ₂ and H ₂ SO ₄ (based on H2S fuel					
			Is the CEM certified by IDEM? Unknown	9	☐Yes	□No		
			Is the CEM operated and maintained in accordance with the applicable regula	tions?	⊠ Yes	□No		
	Sour		•					
	A. Was testing conducted by a trade association or industry group?					□No		
			Identify the trade association or industry group:		Yes			
B. Was testing published and validated through peer review?				☐ Yes	□No			
	C. Was testing approved by IDEM?				☐ Yes	□ No		
	Development of Material Balance Equations							
	Emission Modeling							
	Engineering Estimates:							
х			ease Specify: Vendor Guarantees (NOx and CO)					
9.					☐ Yes	⊠ No		
10.			pmittal: Have you submitted the appropriate reference method or test IDEM?	☐ Yes	□No	⊠ NA		
11.	Mode	ling	Analysis: Was any modeling conducted?	☐ Yes	⊠ No	□NA		
12. Modeling Summary: Briefly describe any modeling that was conducted. <i>Attach additional information using form GSD-05, Summary of Additional Information, as needed.</i>								
N/A								

AEF-01 – ALTERNATE EMISSION FACTOR REQUEST

State Form 51860 (8-04)

Process Description:

SRU Claus Trains, COT-1,

Affected Emissions Units:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

IDEM - Office of Air Quality - Permits Branch

100 N. Senate Avenue, P.O. Box 6015 Indianapolis, IN 46206-6015 Telephone: (317) 233-0178 or

Toll Free: 1-800-451-6027 x30178 (within Indiana) Facsimile Number: (317) 232-6749 Http://www.IN.gov/idem/air/permits/index.html

NOTES:

2.

COT-2

- The purpose of this application is to request to use an alternate emission factor for permitting determinations, estimating source emissions for billing, or for development of emission inventories for use in air quality planning. This is required form.
- Detailed instructions for this form are available online at http://www.IN.gov/idem/air/permits/apps/instructions/aef01instructions.html.
- All information submitted to IDEM will be made available to the public unless it is submitted under a claim of confidentiality. Claims of confidentiality must be made at the time the information is submitted to IDEM, and must follow the requirements set out in 326 IAC 17.1-4-1. Failure to follow these requirements exactly will result in your information becoming a public record, available for any one to inspect and photocopy.

Sulfur Recovery Unit

3.

N/A

FOR OFFICE USE ONLY					
PERMIT NUMBER:					

Raw Materials Impacting Emissions:

Process Gas

		PART E	3: Standard Calcula	ation Method			
Pa	rt B is intended to identify the s	tandard emiss	ion calculation meth	nod and to identify why the method is not adequate.			
5.	Standard Emission Calculation	n Method:	AP-42 Emission Fac	ctors			
6.							
Pro	Process SO ₂ and H ₂ SO ₄ Emissions: Standard AP-42 emission factors are not as accurate as site-specific data.						
Combustion and Process CO Emissions: Standard AP-42 emission factors are not as accurate as unit-specific vendor guarantees.							
	g						
1							

PART A: Process Identification

Part A is intended to identify the process at the source for which the alternate emission factor is requested.

PART C: Proposed Alternate Emission Factor Part C is intended to identify the proposed alternate emission factor (AEF) and to sufficiently describe the AEF such that IDEM staff can understand the process used to develop the AEF.							
7.	7. Proposed AEF: Briefly describe the proposed alternate emission factor.						
emi	Process SO ₂ and H ₂ SO ₄ : BP Whiting's SRU will be equipped with SO ₂ continuous emissions monitors (CEMS). As such, emissions calculations are based on site-specific data rather than standard AP-42 emission factors for more accurate emissions documentation.						
Cor	nbustic	on CO Emissions: Emission factor based on unit-specific vendor guarantee.					
Pro	cess C	O Emissions: Based on unit-specific anticipated performance.					
8.	AEF D	Development Method: What approach was, or will be used to develop the alternat	e emission	factor?			
Х	Conti	nuous Emissions Monitoring System (CEMS) SO ₂					
		A. Is the CEM certified by IDEM? Uknown		☐ Yes	☐ No		
		B. Is the CEM operated and maintained in accordance with the applicable regula	tions?		☐ No		
	Sour	ce Testing					
	A. Was testing conducted by a trade association or industry group?				☐ No		
		Identify the trade association or industry group:					
	B. Was testing published and validated through peer review?			☐ Yes	☐ No		
		C. Was testing approved by IDEM?		☐ Yes	☐ No		
	Deve	lopment of Material Balance Equations					
	Emis	sion Modeling					
	Engir	neering Estimates:					
	Othe	- Please Specify:					
9.		orting Data: Have you attached the data supporting the development of your alternon factor?	nate	☐ Yes	⊠ No		
10.		Submittal: Have you submitted the appropriate reference method or test of to IDEM?	☐ Yes	□No	⊠ NA		
11. Modeling Analysis: Was any modeling conducted?					□NA		
12. Modeling Summary: Briefly describe any modeling that was conducted. <i>Attach additional information using form GSD-05, Summary of Additional Information, as needed.</i>							
N/A	l						